

Application No.: 10/632,499  
Filed: August 1, 2003  
Reply dated: November 15, 2007  
Reply to Office Action of August 27, 2007

### Listing of Claims

Claim 1 (previously presented): A method for optimizing the image quality of movable subjects imaged with a microscope system, comprising the following steps:

- acquiring images, each image having a plurality of pixels;
- determining a respective displacement vector field from a comparison of the pixels of each two chronologically successive acquired images;
- identifying a trajectory for each pixel of the acquired images from the displacement vector fields; and
- applying an operation to the acquired images along the identified trajectory.

Claim 2 (previously presented): The method as defined in Claim 1, wherein the operation along the identified trajectory is a deconvolution, a smoothing, an averaging filter, or an operation acting in time-lateral fashion.

Claim 3 (previously presented): The method as defined in Claim 1, wherein the acquired images are conveyed to an image memory; and data obtained from the plurality of acquired images are conveyed to an optical flow calculator to a trajectory tracker, and to a trajectory memory.

Claim 4 (previously presented): The method as defined in Claim 3, wherein for the application of the operation, the acquired images is retrieved from the image memory and corresponding trajectory data is retrieved from the trajectory memory in a correlated way.

Claim 5 (previously presented): The method as defined in Claim 4, wherein the data generated by application of the operation is conveyed to a second image memory.

Claim 6 (original): The method as defined in Claim 1, wherein the microscope system contains a scanning microscope or a conventional microscope.

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Claim 7 (previously presented): An arrangement for optimizing the image quality of movable subjects imaged with a microscope system, comprising:

- at least one objective defining an image window,
- a detector unit for acquiring images, each image having a plurality of pixels,
- a computer system comprising
  - a means for determining a respective displacement vector field from a comparison of the pixels of at least two chronologically successive acquired images,
  - a means for identifying a trajectory for each pixel of the acquired images from the displacement vector fields, and
  - a means for applying an operation to the acquired images along the identified trajectory.

Claim 8 (previously presented): The arrangement as defined in Claim 7, wherein the means for applying an operation to the acquired images along a the identified trajectory is chosen from: a deconvolution means, a smoothing means, an averaging filter, or a means for operation acting in time-lateral fashion.

Claim 9 (previously presented): The arrangement as defined in Claim 7, further comprising

- a first image memory storing the acquired images;
- a trajectory memory storing trajectory data obtained from the acquired images;
- and
- a second image memory storing the images created by the correlation of the images from the first image memory with the trajectory data from the trajectory memory.

Claim 10 (original): The arrangement as defined in Claim 7, wherein the microscope system encompasses a scanning microscope or a conventional microscope.

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Claim 11 (previously presented): Computer-usable software on a computer-readable medium, wherein the software causes a microscope system to carry out a method as defined in one of Claims 1 through 6.